Eulerian Air Traffic Flow Management Agent for the ACES Software, Phase I

Completed Technology Project (2006 - 2006)

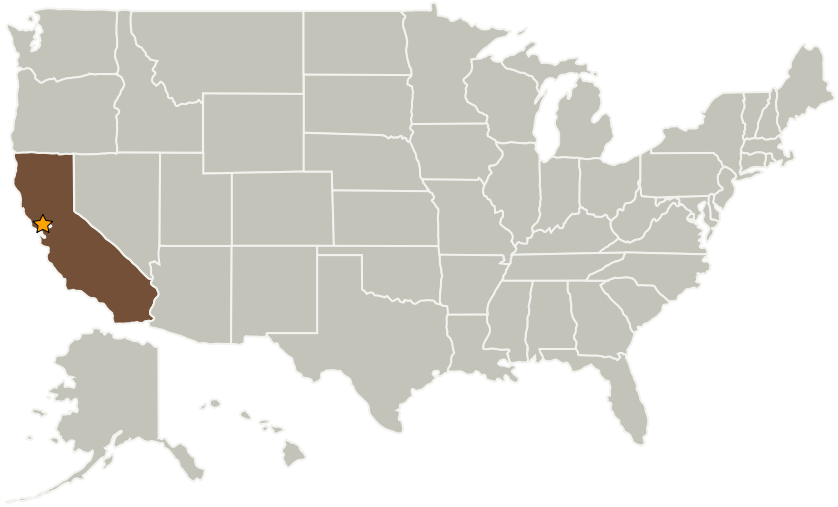
Project Introduction

The development of an Eulerian model based en route traffic flow management agent for the ACES software is proposed. The proposed research will use a recently-developed automatic modeling technique, together with a predictive air traffic flow control approach. Performance of the traffic flow management agent will be evaluated in several traffic flow control situations. The sensitivity of the traffic flow management system to variations in traffic patterns and weather will be investigated. Phase I research will demonstrate the feasibility of developing the traffic flow management agent. A complete version of the proposed software agent will be developed during the Phase II work. It will be fully integrated with the ACES software and commercialized during the Phase III work.

Anticipated Benefits

Potential NASA Commercial Applications: The strategic flow control methodology developed under the proposed research will help develop decision aids for future air traffic flow management. This flow control technique is also useful for developing decision support tools for collaborative flow control and for designing regional metering strategies.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Optimal Synthesis, Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB)	Los Altos, California

Primary U.S. Work Locations
California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Padmanabhan K Menon

Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - TX16.3 Traffic Management Concepts